

## **Current Status of Claims**

### 1. *(currently amended)*

A method for individually transporting articles of different type, size, weight, material or shape, to one delivery location of a plurality of delivery locations that is designated for the respective article, comprising:

- 5     - providing a plurality of article transport containers with a container opening through which an article is discharged,
- arranging the transport containers to move successively in spaced relationship from each other along all points of a predetermined transport path with the container opening of each container normally positioned in an upwardly facing direction,
- 10    - providing each transport container with a respective axis of rotation, to permit controlled rotation of selected ones of the transport containers,
  - identifying each article as regards its type of material, ~~[[prior to]]~~
  - placing the identified articles one by one in ~~[[a]]~~ respective ~~one of a plurality of~~ transport containers,
- 15    - providing television camera inspection of the articles one by one from a location above the transport path of the articles ~~[[to establish]]~~,
  - establishing via the camera inspection that just one article is placed or is present in a respective dedicated transport container, ~~[[and]]~~
  - designating a delivery location for discharge of a contained article from its
- 20    transport container,
  - causing the respective article at its designated delivery location to be discharged from its transport container to a collecting or storage bin, disintegrator or further conveyor dedicated to the article by rotating the transport container about its axis of rotation in one direction beyond the point of article discharge to the normal container position
- 25    without contacting any other container during such rotation to enable~~[[;]]~~ said discharge of the article from the container opening ~~[[being]]~~ to be made under the effect of gravity ~~or with the aid of a separate, controlled actuating means.~~

### 2. *(previously presented)*

A method according to claim 1, wherein the transport container at the designated delivery location is made to invert in the course of rotating the container through an angle of 360°  
5     about an axis of rotation so as to discharge the single article from the container under the effect of gravity.

3. *(currently amended)*

A method for individually transporting articles of different type, size, weight, material or shape, to one delivery location of a plurality of delivery locations that is designated for the respective article, comprising:

- 5    **- providing a plurality of article transport containers with a container opening through which an article is discharged,**
- arranging the transport containers to move successively in spaced relationship from each other along all points of a predetermined transport path with the container opening of each container normally positioned in an upwardly facing direction,**
- 10   **- providing each transport container with a respective axis of rotation, to permit controlled rotation of selected ones of the transport containers,**
  - identifying each article as regards its type of material, ~~[[prior to]]~~
  - placing the identified articles one by one in ~~[[a]]~~ respective ~~one of a plurality of~~ transport containers,
- 15   **- designating a delivery location for discharge of a contained article from its transport container,**
  - discharging the respective article at its designated delivery location from its transport container to a collecting or storage bin, disintegrator or further conveyor dedicated to the article, said discharging provided by inverting the transport container ~~[[in the course of]]~~ **by**
  - 20   rotating the container **in one direction** through an angle of 360° about ~~[[an]]~~ **its** axis of rotation **without contacting any other container** so as to discharge the single article from the container **opening** under the effect of gravity.

4. (currently amended)

A method for individually transporting articles of different type, size, weight, material or shape, to one delivery location of a plurality of delivery locations that is designated for the respective article, comprising:

- 5    - providing a plurality of article transport containers with a container opening through which an article is discharged,
- arranging the transport containers to move successively in spaced relationship from each other along all points of a predetermined transport path with the container opening of each container normally positioned in an upwardly facing direction,
- 10   - providing each transport container with a respective axis of rotation, to permit controlled rotation of selected ones of the transport containers,
- identifying each article,
- placing identified articles one by one in ~~[[a]]~~ respective ~~one of a plurality of~~ transport containers,
- 15   - designating a delivery location for discharge of a contained article from its transport container,
- discharging the respective article at its designated delivery location from its transport container to a collecting or storage bin, disintegrator or further conveyor dedicated to the article, said discharging provided by inverting the transport container ~~[[in the course of]]~~
- 20   by rotating the container in one direction through an angle of 360° about ~~[[an]]~~ its axis of rotation without contacting any other container so as to discharge the single article from the container opening under the effect of gravity,
- controlling the rotation of the transport container ~~[[being controlled]]~~ by providing a plurality of guide pins on the container, and a selectively controllable guide flap at the
- 25   delivery location, and a stationary toothed engaging element at the delivery location,
- causing an initial turning of the container by engaging at least one of the guide pins, ~~in cooperation with a movable and~~ with the selectively controllable guide flap ~~mounted at the delivery location,~~ and causing ~~[[an initial]]~~ further controlled ~~[[turning]]~~ rotation of the container~~[[, and]]~~ by engaging at least one further guide pin on the container ~~[[in cooperation]]~~
- 30   the stationary toothed engaging element at the delivery location ~~causing controlled rotation of the container.~~

5. *(previously presented)*

A method according to claim 1, wherein further television camera inspection of the transport containers includes at least one of:

- i) determining that discharging of an article at designated article delivery location causes the transport container to be fully emptied,
- 5 ii) determining that the article is not a strange article, and
- iii) determining that the article is in a unitary state when in its container.

6. *(previously presented)*

A method according to claim 1, wherein said television camera inspection is made from a location above the transport path of the articles.

7. *(previously presented)*

A method according to claim 2, wherein rotation of the transport container is performed in a controllable manner and temporally actuated by force.

8. *(previously presented)*

A method according to claim 1, wherein the transport containers are prevented from rotation in horizontal portions of the circular path, except at the designated article delivery location related to a specific container, by allowing guide pins on both sides of the container to form anti-rotation supports.

9. *(previously presented)*

- A method according to claim 2, wherein the rotation of the transport container is controlled by a plurality of guide pins on the container, where at least one of the guide pins, on cooperation with a movable and selectively controllable guide flap mounted at the delivery location, causes an initial turning of the container, and wherein at least one
- 5 further guide pin on the container in cooperation with a stationary toothed engaging element at the delivery location causes controlled rotation of the container.

10. *(currently amended)*

A method according to claim 1, wherein the articles to be identified, inspected, transported one by one and discharged, are empty packaging units being at least one from the group of cans of metal, cans of plastic, bottles of plastic, and bottles of glass.

11. (currently amended)

A device for individually transporting articles of different type, size, weight, material or shape to one delivery location of a plurality of delivery locations that is designated for the respective article, comprising:

**- an endless transport path traversing a plurality of delivery locations,**

- 5 - a plurality of **article** transport containers being arranged to move **successively** in spaced apart relation **from each other** along **all points of the** ~~[[a]]~~ transport path as an endless, moving row of containers, **movable past the plurality of delivery locations,**

**- means for placing articles, one by one , in respective transport containers,**

- an article recognition means **at a first location proximate the transport path** for  
10 identifying each article as regards its type of material prior to a location at which the articles are to be placed one by one in a respective transport container to yield only one article per container;

- at least one television camera which is located **at a second location proximate the transport path** to inspect the articles one by one to establish that just one article is  
15 placed or is present in a respective dedicated transport container; ~~[[and]]~~

- a container actuating means **for causing removal of an article from its container,**  
mounted at each of said plurality of said delivery locations, ~~[[a]]~~ respective ones of said  
actuating means ~~[[in]]~~ **having** one state capable of entering into activated position  
related to a designated delivery location for an identified article, to cooperate with a  
20 respective transport container so as to cause removal of the identified article from ~~[[the]]~~  
**its** container at its designated delivery location, said **respective ones of said** actuating  
means ~~[[in]]~~ **having** a second state controllable to be in an inactive position to  
selectively allow a container to pass the delivery location related to said respective  
actuating means **without causing removal of article from container** when a container  
25 contains an article not designated for delivery thereat.

12. (currently amended)

A device according to claim 11 wherein

- that the transport container at a delivery location designated for an article is arranged to cooperate with a means at the delivery location for emptying the transport container in the course of rotating the container through a 360° **angle** about an axis of rotation thereof  
5 so as to discharge the article under the effect of gravity.

13. (currently amended)

A device for individually transporting articles of different type, size, weight, material or shape to one delivery location of a plurality of delivery locations that is designated for the respective article, comprising:

- **an endless transport path traversing a plurality of delivery locations,**

- 5 - a plurality of **article** transport containers **each having an axis of rotation and an opening through which an article is discharged, and being oriented such that the container opening is normally positioned in an upwardly facing direction, the transport containers** being arranged to move **successively** in spaced apart relation **from each other** along **all points of the** ~~[[a]]~~ transport path as an endless, moving row of  
10 containers, **movable past the plurality of delivery locations,**

- **means for placing articles, one by one in respective transport containers,**

- an article recognition means **at a first location proximate the transport path** for identifying each article as regards its type of material prior to a location at which the articles are to be placed one by one in a respective transport container to yield only one  
15 article per container;

- a container actuating means for discharging the respective article at its designated delivery location from its transport container to a collecting or storage bin, disintegrator or further conveyor dedicated to the article,

- said **container actuating means for** discharging **the respective article further**

- 20 **including** means **for** causing the transport container to rotate **in one direction** through an angle of 360° about ~~[[a]]~~ **its** axis of rotation, **without contacting any other container,** so as to discharge the single article from the container **opening** under the effect of gravity.

14. (currently amended)

A device for individually transporting articles of different type, size, weight, material or shape to one delivery location of a plurality of delivery locations that is designated for the respective article, comprising:

**- an endless transport path traversing a plurality of delivery locations,**

- 5 - a plurality of **article** transport containers **each having an axis of rotation and an opening through which an article is discharged, and being oriented such that the container opening is normally positioned in an upwardly facing direction, the transport containers** being arranged to move **successively** in spaced apart relation **from each other** along **all points of the** ~~[[a]]~~ transport path as an endless, moving row of  
10 containers **movable past the plurality of delivery locations,**  
~~[[said device]]~~

**- means for placing articles, one by one, in respective transport containers,**

- an article recognition means **at a first location proximate the transport path** for identifying each article as regards its type of material prior to a location at which the  
15 articles are ~~[[to be]]~~ placed one by one in ~~[[a]]~~ respective transport containers to yield only one article per container;

- a container actuating means **for** causing ~~[[discharging]]~~ **discharge** of a respective article at its designated delivery location from its transport container to a collecting or storage bin, disintegrator or further conveyor dedicated to the article ~~[[by]]~~,

- 20 **- said container actuating means further including means for** inverting the transport container ~~[[in the course of]]~~ **by** rotating the container **in one direction** through an angle of 360° about ~~[[an]]~~ **the** axis of rotation **without contacting any other container** so as to discharge the single article from the container **opening** under the effect of gravity,

- said container actuating means **further** including a plurality of guide pins on the  
25 container, **a movable guide flap at the delivery location movable to an engagement position, and a stationary toothed engaging element at the delivery location** for controlling the rotation of the transport container, at least one of the guide pins being configured, ~~upon cooperation with said actuating means in the form of a moving~~  
**engageable with the movable** guide flap ~~[[located]]~~ at the delivery location, **when the**  
30 **guide flap is moved to the engagement position** to cause an initial turning of the container, and at least one additional guide pin on the container being configured to co-operate with ~~[a]~~ **the** toothed engaging element ~~[[located stationary]]~~ at the delivery location to effect **further** controlled rotation of the transport container.

15. *(previously presented)*

A device according to claim 11, wherein the transport containers have guide pins on both sides of the container which form anti-rotation supports in at least parts of the horizontal portions of the transport path.

16 . *(currently amended)*

A device according to claim 11,

**- including a stationary toothed engaging element at each delivery location,**

- wherein a plurality of guide pins are provided on the container for controlling the rotation of the transport container, wherein at least one of the guide pins is arranged, upon cooperation with said actuating means in the form of a moving guide flap located at the delivery location, to cause an initial turning of the container, and wherein at least one additional guide pin on the container is ~~is~~ **positioned** to co-operate with ~~[[a]]~~ **the** toothed engaging element ~~located stationary at the delivery location~~ to effect controlled rotation of the transport container.

17. *(previously presented)*

A device according to claim 11, wherein said at least one television camera is placed above said transport path of the articles and cooperative with the article recognition means in order to establish at least one of the following further features:

- discharging of an article at designated article delivery location causes the transport container to be fully emptied,  
the article is not a strange article, and  
the article is in a unitary state when in its container.

18. *(currently amended)*

A device according to claim 11, wherein said at least one ~~[[a]]~~ television camera is linked to the article recognition means to provide inspection of the articles from a location above the transport path of the articles.

19. *(currently amended)*

- A device according to claim 11, wherein the article recognition means, the camera and the containers are configured to identify, inspect, and transport and discharge, respectively empty packaging units being at least one from the group of : cans of metal, cans of plastic, bottles of plastic, and bottles of glass.



20. (currently amended)

A device according to claim 11,

- wherein **the containers include a pair of bearing pins and** a pair of chains or lines are provided to drive the containers through the transport path, said pair of chains or lines interacting with two pulling, rigidly interconnected, powered drive wheels around which  
5 the chains or lines are partly run;

- **guide wheels for guiding movement of the chains or lines along the transport path,**

- wherein ~~[[holders on]]~~ the chains or lines ~~are designed for successive cooperation~~  
**include opposite pairs of holders that successively cooperate** with corresponding  
recesses in respective guide wheels for synchronous movement of said chains or lines;

10 and

- wherein ~~[[at least some of]]~~ **selected** opposite pairs of said holders provide support for  
~~[[a]]~~ **the** pair of bearing pins on the containers.